

### ABSTRACT OF THE DISCLOSURE

The present invention provides an erythema meter comprising a light guide that carries light of two specific wavelengths (probing and reference) at two distinct frequencies that are generated and modulated by either a single or multiple source(s), a photodetector mounted in the tip of the guide that receives light reflected from the surface being examined, and circuitry electrically coupled to the guide for processing the light data, and determining the level of erythema present on the examined surface. The probing and reference wavelengths are delivered in sinusoidal or amplitude modulated fashion, thereby permitting electronic filtering of the received data. A calculating circuit determines the quotient of the two wavelengths after having been reflected off of a surface, such as mucosal or dermal surfaces, which is representative of the severity of erythema present in the surface